Abstract of the Disclosure

An apparatus and method for checking validity of an 8B/10B code-group are provided. The apparatus for checking validity of an 8B/10B code-group includes a 6B/5B disparity classification unit, a 4B/3B disparity classification unit, an RD6 detection unit, an RD4 detection unit, an 8B/10B code-group rule violation detection unit, an RD error detection unit, and a unit for outputting 8B/10B code-group validity. The apparatus receives an 8B/10B code-group, divides into a least significant 6-bit nibble and a most significant 4-bit nibble, detects a running disparity, and by doing so, determines the validity of a code-group. The apparatus and method for checking validity of an 8B/10B code-group relatively shortens the critical path, which indicates the number of combinational logic circuits that should be operated in a unit time, and therefore the apparatus and method are appropriate to high-speed systems such as gigabit Ethernet systems.